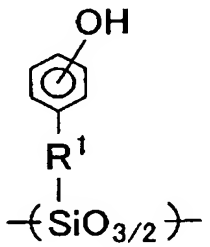
CLAIMS

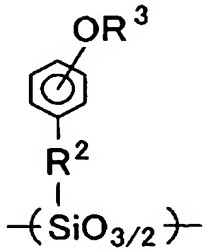
1. A positive resist composition, comprising a resin component (A) that exhibits increased alkali solubility under action of acid, and an acid generator component (B) that generates acid on exposure, wherein

said component (A) comprises a silsesquioxane resin (A1) containing structural units (a1) represented by a general formula (I) shown below, structural units (a2) represented by a general formula (II) shown below, and structural units (a3) represented by a general formula (III) shown below:



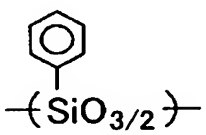
···(Ⅰ)

(wherein, R^1 represents a straight-chain or branched alkylene group of 1 to 5 carbon atoms)



···(Ⅱ)

(wherein, R^2 represents a straight-chain or branched alkylene group of 1 to 5 carbon atoms, and R^3 represents an acid dissociable, dissolution inhibiting group)

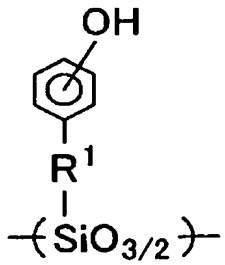


···(Ⅲ)

2. A positive resist composition according to claim 1, wherein a quantity of a combination of said structural units (a1) and (a2), relative to a combined total of all structural units within said component (A1), is at least 50 mol%, and a quantity of said structural units (a2), relative to said combination of said structural units (a1) and (a2), is at least 10 mol%.

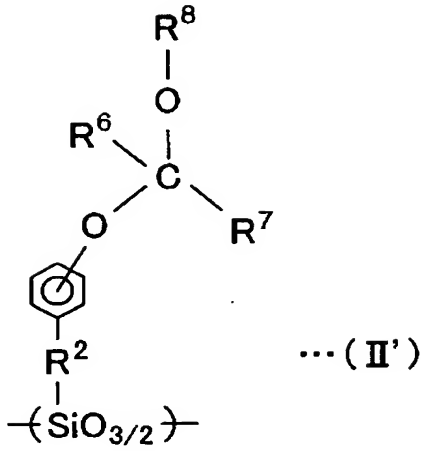
3. A positive resist composition, comprising a resin component (A) that exhibits increased alkali solubility under action of acid, and an acid generator component (B) that generates acid on exposure, wherein

said component (A) comprises a silsesquioxane resin (A2) containing structural units (a1) represented by a general formula (I) shown below, and structural units (a2') represented by a general formula (II') shown below:



···(I)

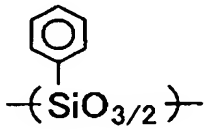
(wherein, R^1 represents a straight-chain or branched alkylene group of 1 to 5 carbon atoms)



···(Ⅱ')

(wherein, R^2 represents a straight-chain or branched alkylene group of 1 to 5 carbon atoms, R^6 represents an alkyl group of 1 to 5 carbon atoms, R^7 represents either an alkyl group of 1 to 5 carbon atoms or a hydrogen atom, and R^8 represents an alicyclic hydrocarbon group of 5 to 15 carbon atoms).

4. A positive resist composition according to claim 3, wherein said component (A2) further comprises structural units (a3) represented by a general formula (III) shown below.



···(Ⅲ)

5. A positive resist composition according to claim 3, wherein a quantity of a combination of said structural units (a1) and (a2'), relative to a combined total of all structural units within said component (A), is at least 50 mol%, and a quantity of said structural units (a2'), relative to said combination of said structural units (a1) and (a2'), is at least 5 mol%, but no more than 50 mol%.

6. A positive resist composition according to either one of claim 1 and claim 3, further comprising a dissolution inhibitor (C) in addition to said component (A) and said component (B).

7. A positive resist composition according to either one of claim 1 and claim 3, wherein said positive resist composition is used for exposure with a KrF excimer laser or an electron beam.

8. A positive resist composition according to either one of claim 1 and claim 3, wherein said composition is used for forming a resist layer, either on top of a substrate and a magnetic film provided on top of said substrate, or on top of a metallic oxidation prevention film provided on top of said magnetic film.

9. A resist laminate, comprising a lower organic layer and an upper resist layer laminated on top of a support, wherein

said lower organic layer is insoluble in alkali developing solution, but can by dry etched, and

said upper resist layer comprises a positive resist composition according to either one of claim 1 and claim 3.

10. A resist laminate according to claim 9, wherein a thickness of said lower organic layer is within a range from 300 to 20,000 nm, and a thickness of said upper resist layer is within a range from 50 to 1,000 nm.

11. A process for forming a resist pattern, comprising:

a laminate formation step of forming a resist laminate according to claim 9;

a first pattern formation step of conducting selective exposure of said resist laminate, performing post exposure baking (PEB), and conducting alkali developing to form a resist pattern (I) in said upper resist layer;

a second pattern formation step of conducting dry etching using said resist pattern (I) as a mask, thereby forming a resist pattern (II) in said lower organic layer; and

an etching step of conducting etching using said resist pattern (I) and said resist pattern (II) as a mask, thereby forming a fine pattern in said support.

12. A process for forming a resist pattern according to claim 11, wherein dry etching in said second pattern formation step is etching using an oxygen plasma.

13. A process for forming a resist pattern according to claim 11, wherein etching in said etching step is etching using a halogen-based gas.

14. A process for forming a resist pattern according to claim 11, further comprising, prior to said second pattern formation step, a step of providing a water-soluble resin coating comprising a water-soluble polymer on top of said resist pattern (I) and then conducting heating, thereby narrowing a spacing within said resist pattern (I).

15. A process for forming a resist pattern according to claim 14, wherein a material comprising structural units derived from at least one monomer which acts as a proton donor, and structural units derived from at least one monomer which acts as a proton acceptor is used as said water-soluble polymer.